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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,607	12/17/2001	Akio Kobayashi	111473	5916

25944 7590 12/29/2004

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EXAMINER

HELMER, GEORGIA L

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/015,607

Applicant(s)

KOBAYASHI ET AL.

Examiner

Georgia L. Helmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-15, 20, 21 and 23 is/are rejected.
- 7) ☒ Claim(s) 6-8, 19 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>25 Apr2002</u> . | 6) <input type="checkbox"/> Other: _____  |

**Office Action**

***Status of the Claims***

1. The Office acknowledges receipt of Applicants Response; 13 October 2004.
2. Applicant has cancelled claims 16-18, amended claims 1, 4, and 13, and added new claims 19-23. Claims 1-15 and 19-23 are pending, and are examined in the instant action.
3. This action is made FINAL necessitated by Applicant's amendment.
4. All rejections not addressed below have been withdrawn.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Information Disclosure Statement***

6. Applicant's IDS filed 25 April 2002 is acknowledged and a signed copy included.

***Claim Rejections - 35 USC § 102***

7. Claims 1-3, 10, 11, 21 and 23 remain rejected under 35 U.S.C. 102(b) as being anticipated by Kaneko, et. al. (EP 0 482 847 A2, published 06 May 1992) for reasons of record in the Office Action of 13 July 2004. This rejection is in part maintained for reasons of record, set forth in the Office Action mailed 26 May 2004, and in part due to Applicant's amendments to the claims.

New claim 21 is drawn to the method of claim 1 wherein the small particle includes the foreign matter, and new claim 23 is drawn to the method wherein the foreign matter is attached to the small particle.

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Kaneko et. al. teach a water molecule (a small particle) plus a foreign matter (DNA of pBI1221). Water is ionic molecule, as is DNA, the foreign matter of Kaneko et. al., DNA, has a negative electronic charge which forms an ionic bond with water. Therefore Kaneko et. al. disclose "small particle including a foreign matter" (claim 21).

Kaneko et. al. teaches a water molecule (a small particle) plus a foreign matter (DNA of pBI1221). Water is ionic molecule, as is DNA, the foreign matter of Kaneko et. al. DNA has a negative electronic charge which forms an ionic bond with water. Therefore the foreign matter (the DNA) is attached to the small particle (the water) (claim 23). This attachment is via an ionic bond.

Applicant traverses saying primarily that Kaneko, et. al does not disclose the claimed "small particle carrying a foreign matter" (Response of 13 October 2004, p. 8). That Kaneko et. al. discloses a foreign matter in solution. Applicant further asserts that the Office Action taking the positions that the "language "small particle carrying a foreign matter" is indefinite and is read broadly to mean an aqueous solution containing the foreign matter" is incorrect and ignores the claim language. Applicant further asserts that since the cited language is not rejected under §112.2, then it cannot be so indefinite as to be broadly interpreted under §102 (b).

Applicant's traversal is unpersuasive. A water molecule is a small particle, and a water molecule plus a foreign matter (DNA of pBI1221, in this case) is disclosed by Kaneko et. al. Therefore Kaneko et. al. disclose a "small particle carrying a foreign matter" (claim 1).

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The Office's citing the language "small particle carrying a foreign matter" as indefinite is incorrect. Rather, the Examiner misspoke, and meant the cited language is broad.

Applicant traverses saying primarily that a particle as a carrier is physically distinct from a solution (Response, p. 9) . Applicant's traversal is unpersuasive. A water molecule is a small particle, and a water molecule plus a foreign matter (DNA of pBI1221, in this case) is disclosed by Kaneko et. al. Therefore Kaneko et. al. disclose a "small particle carrying a foreign matter" (claim 1).

Accordingly Kaneko et. al. anticipate the claimed invention.

***Claim Rejections - 35 USC § 103***

8. Claims 1-5, 10-11, 13-15, 20, 21 and 23 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et. al., as discussed above for claims 1-3, 10, 11, 21 and 23, in view of Gad, et. al. (Physiologia Plant. 1990, Vol 79, pages 177-183). This rejection is in part maintained for reasons of record, set forth in the Office Action mailed 26 May 2004, and in part due to Applicant's amendments to the claims.

New claim 21 is drawn to the method of claim 1 wherein the small particle includes the foreign matter, and new claim 23 is drawn to the method wherein the foreign matter is attached to the small particle.

Kaneko et. al. teach a water molecule (a small particle) plus a foreign matter (DNA of pBI1221). Water is ionic molecule, as is DNA, the foreign matter of Kaneko et. al., DNA, has a negative electronic charge which forms an ionic bond with water. Therefore Kaneko et. al. disclose "small particle including a foreign matter" (claim 21).

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Kaneko et. al. teaches a water molecule (a small particle) plus a foreign matter (DNA of pBI1221). Water is ionic molecule, as is DNA, the foreign matter of Kaneko et. al. DNA has a negative electronic charge which forms an ionic bond with water. Therefore the foreign matter (the DNA) is attached to the small particle (the water) (claim 23). This attachment is via an ionic bond.

Applicant traverses saying primarily that the Office has not made a prima facie case of obviousness. That none of the references teach or suggest a small particle carrying a foreign matter (Response, p. 10). Applicant's traversal is unpersuasive as discussed above for §102.

Applicant further traverses that Kaneko et. al. do not provide motivation to modify the reference and that the reference must teach or suggest the claim limitations (Response, p. 10). Applicant's traversal is unpersuasive. Gad and Kaneko et. al. provide both motivation and suggestion the claimed invention, as discussed in the 13 July 2004 Office Action. It would have been obvious to one of skill in the art, at the time of the invention was made, to modify the invention of Kaneko et. al. in view of Gad et. al. to use the a liposome having a particle diameter of 30-50 nmeters as the means of introducing the foreign particle into the laser treated living plant cell. Gad teaches that liposome fusion was known in the art as being successful for introduction of DNA into plant cells (Gad et. al. p. 180, last full ¶). One skilled in the art would have been motivated to so, with a reasonable expectation of success. Accordingly, the claimed invention is prima facie obvious in view of the prior art.

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9. Claims 1-5, 9-15, 20, 21 and 23 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko et. al., in view of Gad, et. al. (Physiologia Plant. 1990, Vol 79, pages 177-183), as discussed above for claims 1-5, 10-11, 13-15, 20, 21 and 23, and further in view of Weber, et. al., (Manipulation of Cells, Organelles, and Genomes by laser microbeam and optical traps, 1992, International Rev. of Cytology, vol. 133, pages 1-41, p. 6, Table 1). This rejection is in part maintained for reasons of record, set forth in the Office Action mailed 26 May 2004, and in part due to Applicant's amendments to the claims.

New claim 21 is drawn to the method of claim 1 wherein the small particle includes the foreign matter, and new claim 23 is drawn to the method wherein the foreign matter is attached to the small particle.

Kaneko et. al. teach a water molecule (a small particle) plus a foreign matter (DNA of pBI1221). Water is ionic molecule, as is DNA, the foreign matter of Kaneko et. al., DNA, has a negative electronic charge which forms an ionic bond with water. Therefore Kaneko et. al. disclose "small particle including a foreign matter" (claim 21).

Kaneko et. al. teaches a water molecule (a small particle) plus a foreign matter (DNA of pBI1221). Water is ionic molecule, as is DNA, the foreign matter of Kaneko et. al. DNA has a negative electronic charge which forms an ionic bond with water. Therefore the foreign matter (the DNA) is attached to the small particle (the water) (claim 23). This attachment is via an ionic bond.

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Applicant traverses saying primarily that Weber et. al. does not overcome the deficiencies of Gad and Kaneko et. al. (Response, p. 12).

Applicant's traversal is unpersuasive. The purported deficiencies of Kaneko et. al. and Gad have been addressed above.

Accordingly, the claimed invention is prima facie obvious in view of the prior art.

**Remarks**

10. Claims 1-5, 9-15, 20, 21, and 23 are not allowed, given the prior art of record. Claims 6-8, 19 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



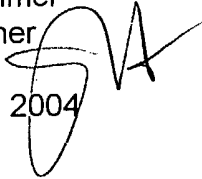
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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Georgia L. Helmer whose telephone number is 571-272-0976. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on 571-272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Georgia L. Helmer  
Patent Examiner  
Art Unit 1638  
December 27, 2004



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